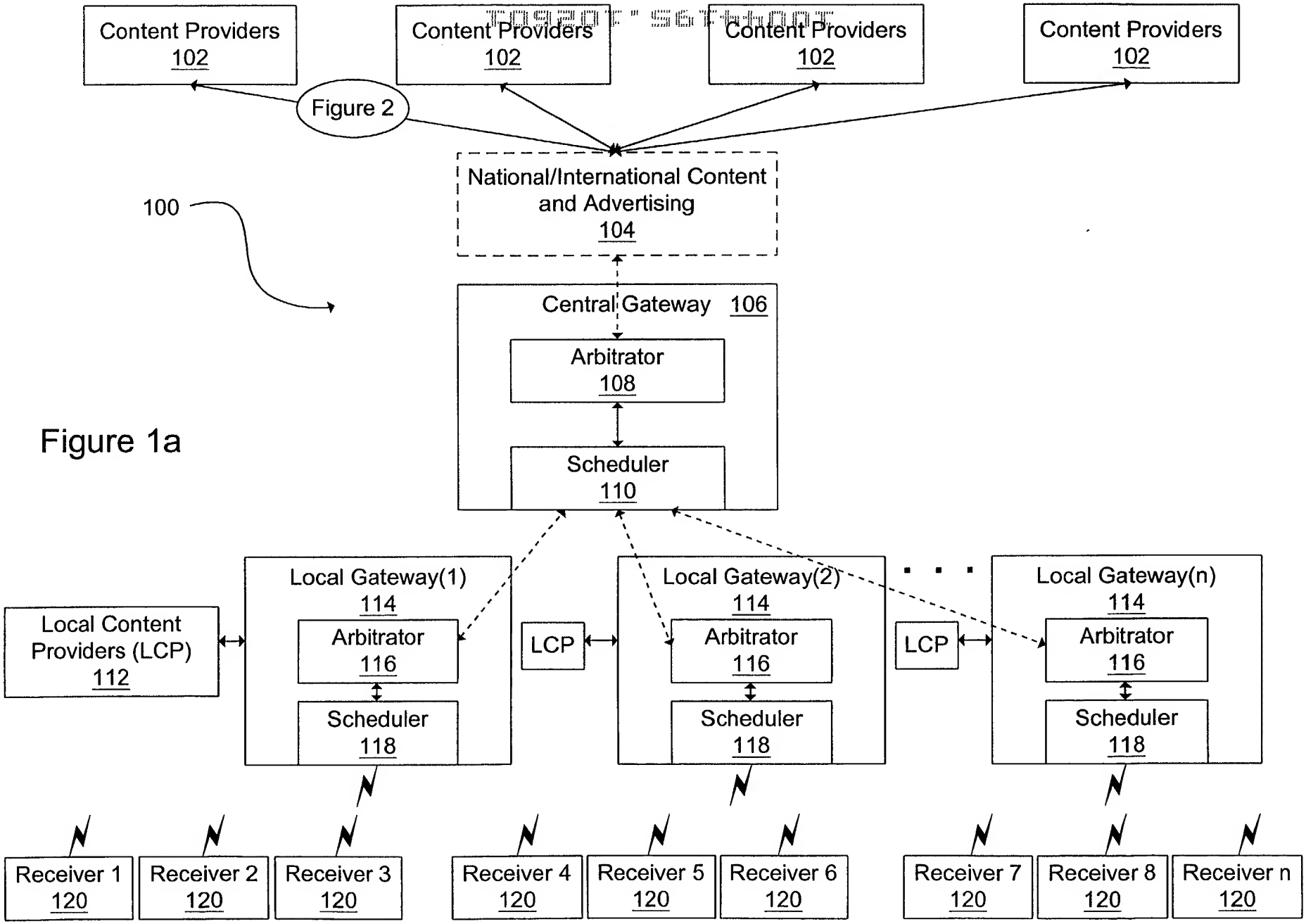
Content Providers
102
Content Providers
102
Content Providers
102
Content Providers
102
Figure 2
National/International Content and Advertising
104
100
Central Gateway 106
Arbitrator
108
Scheduler
110
Local Gateway(1)
114
Arbitrator
116
Scheduler
118
Local Gateway(2)
114
Arbitrator
116
Scheduler
118
Local Gateway(n)
114
Arbitrator
116
Scheduler
118
Local Content Providers (LCP)
112
LCP
LCP
Receiver 1
120
Receiver 2
120
Receiver 3
120
Receiver 4
120
Receiver 5
120
Receiver 6
120
Receiver 7
120
Receiver 8
120
Receiver n
120

Figure 1a

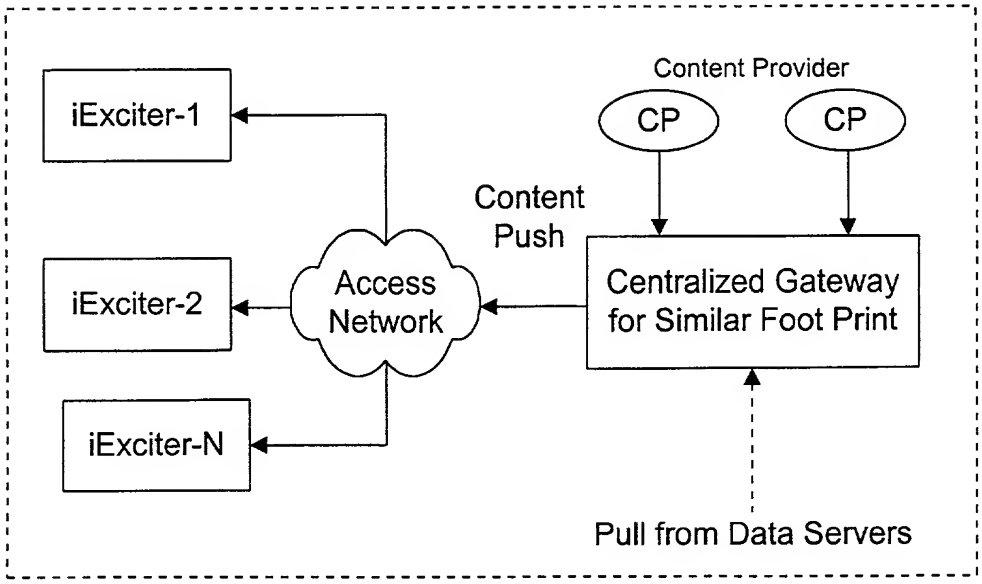

Figure 1b

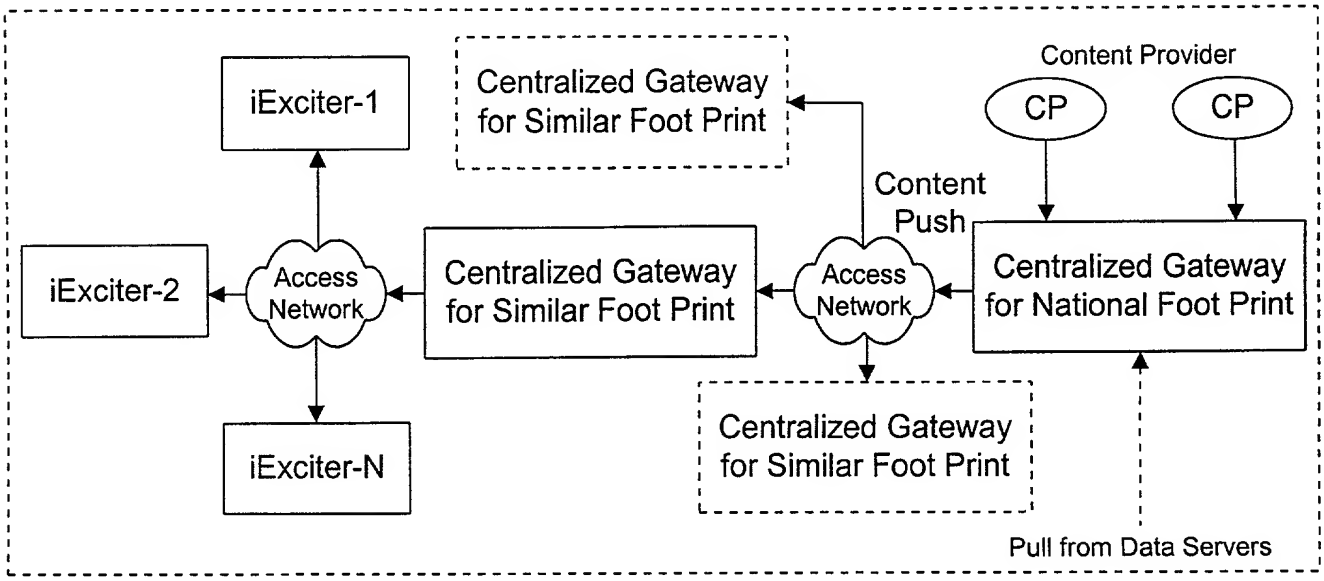

Figure 1c

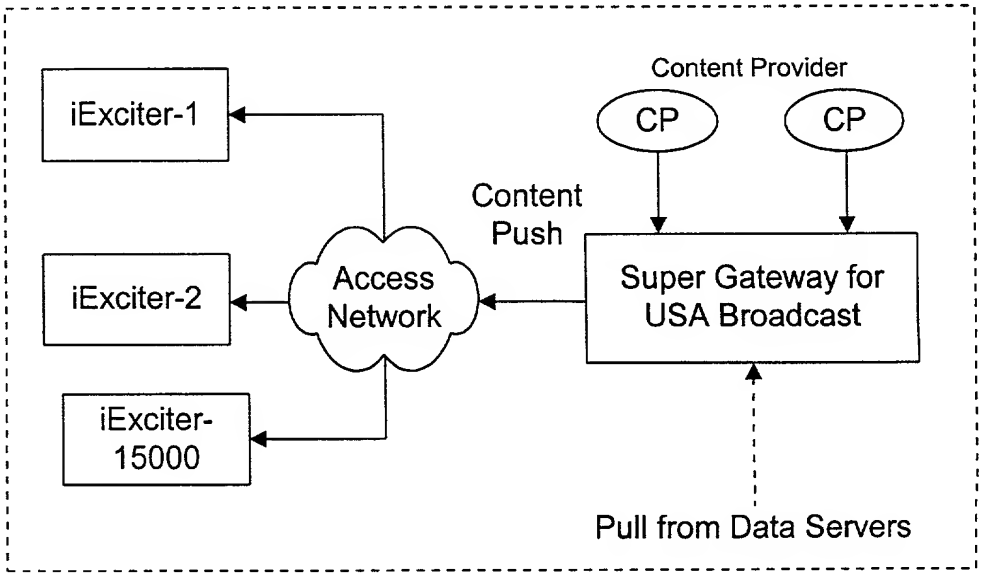

Figure 1d

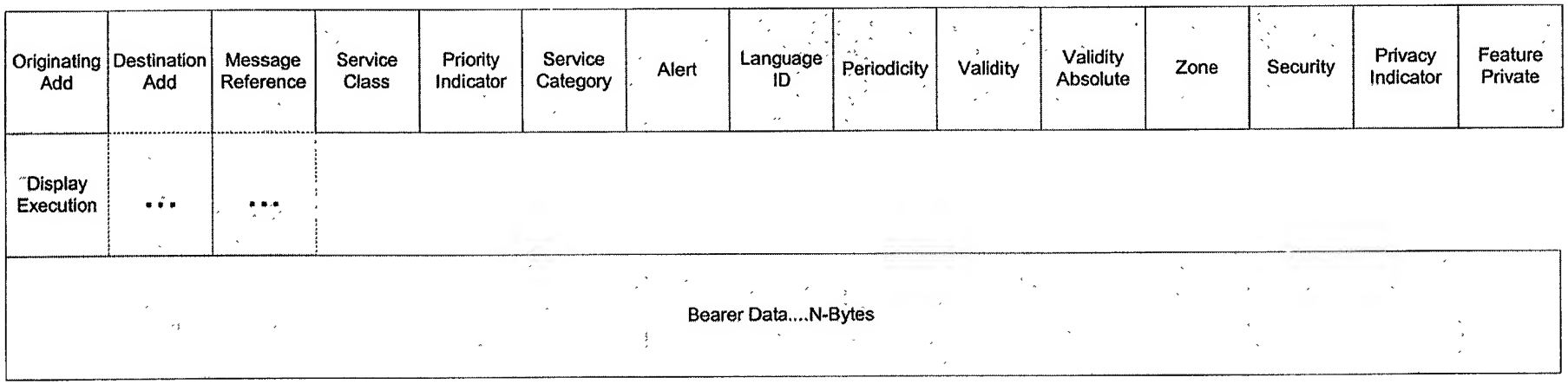
Originating Add
Destination Add
Message Reference
Service Class
Priority Indicator
Service Category
Alert
Language ID
Periodicity
Validity
Validity Absolute
Zone
Security
Privacy Indicator
Feature Private
Display Execution
• • •
• • •
Bearer Data....N-Bytes

Figure 2

Message Name	ASP	iPPG	Rx	Description
Originating Add	X	X	X	Service Operator Code (SOC) or address
Destination Add	X		X	Broadcast, Multicast or Unicast
Message Ref.	X	X		Random #0-16 bits long?
Service Class	X	X		Basic, Preferred, Premium, etc.
Priority Indicator	X	X	X?	Normal, Urgent, Emergency
Service Category		X	X	Unknown/unspecified, Administrative, Maintenance, Talent Announcement, Advertisement, News (local, regional, national, international), Sports, Weather, Traffic, Emergency, Alert, Stocks (local, regional, national, international), Entertainment, Restaurants, Lodging, Advertisements, Medical, Health, Hospitals, Multimedia, Audio, Logo, Text, etc.
Alert			X	With Info Vibrate, Tone, Remind, Cadence, etc.
Language ID	X		X	Language filtration
Periodicity	X			Repetition rate
Validity	X	X		Indefinite, Power Down, Display only, etc.
Validity Absolute	X	X		Validity Period (message valid during these times)
Validity Period	X	X		Message valid/not valid during these times
Message Time Stamp		X	X	Optional
Zone	X	X		Cells, Sectors, Entire, etc.
Bearer Data	X	X	X	Any desired Message Contents (max size?)
Contact #	X		X	For point of sale information. May be a hyperlink.
Security		X	X	?
Privacy Indicator		X	X	Unrestricted, Restricted, Confidential, Secret
Feature Private	X		X	
Display Execution		X	X	Pre download with Deactivate On/Off with key/without key
TBD				To be determined

Figure 3

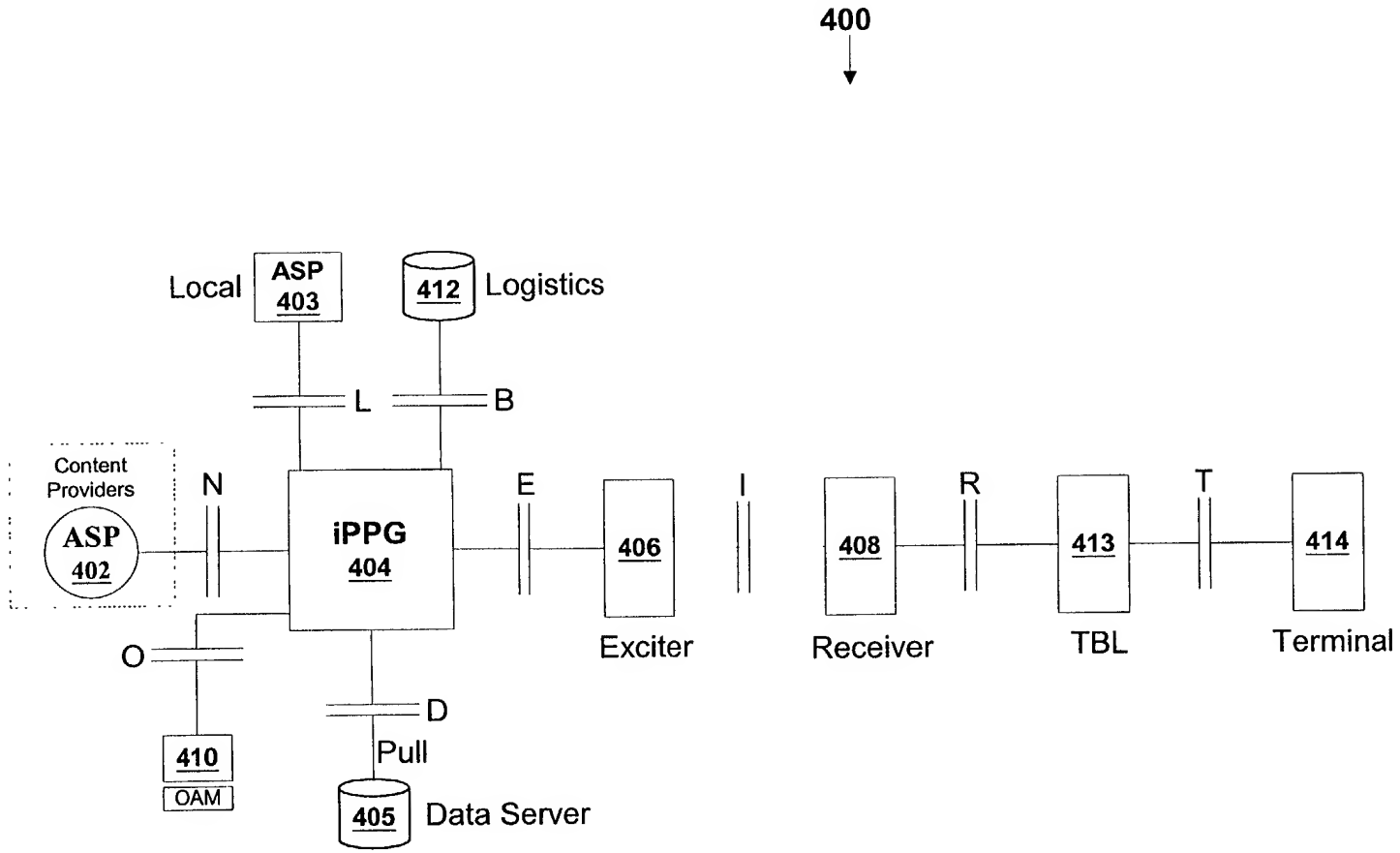
400
Local
ASP
403
412
Logistics
L
B
Content
Providers
ASP
402
N
iPPG
404
E
406
I
408
R
413
T
414
Exciter
Receiver
TBL
Terminal
O
D
Pull
410
OAM
405
Data Server

Figure 4

T0920T "56Th00T

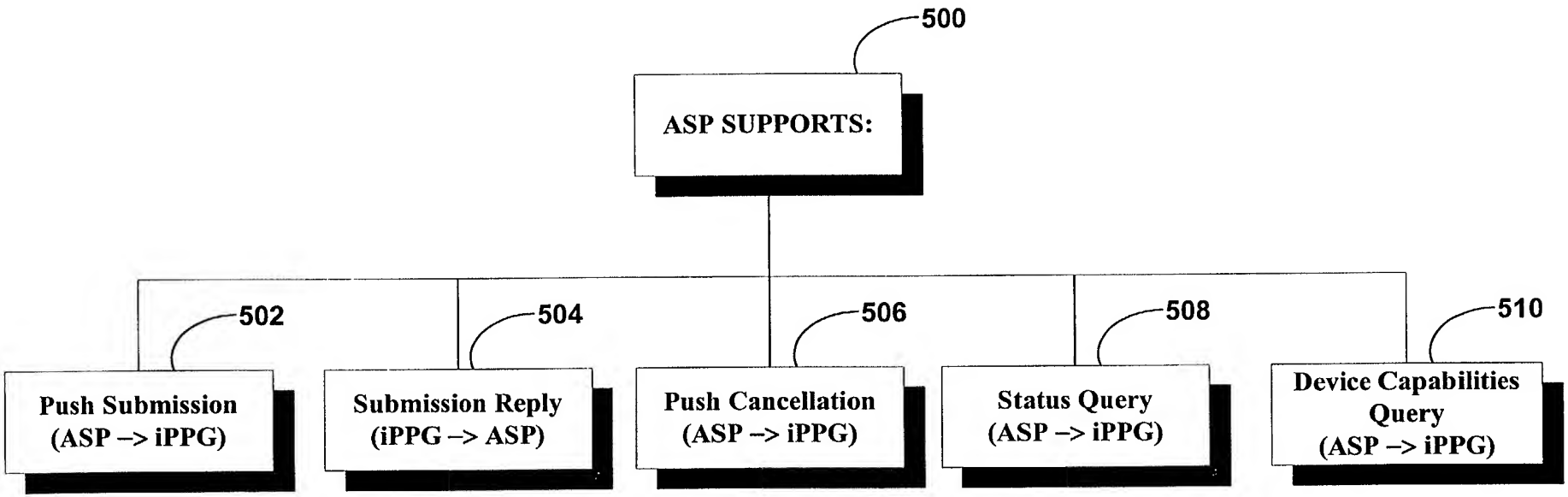

Figure 5

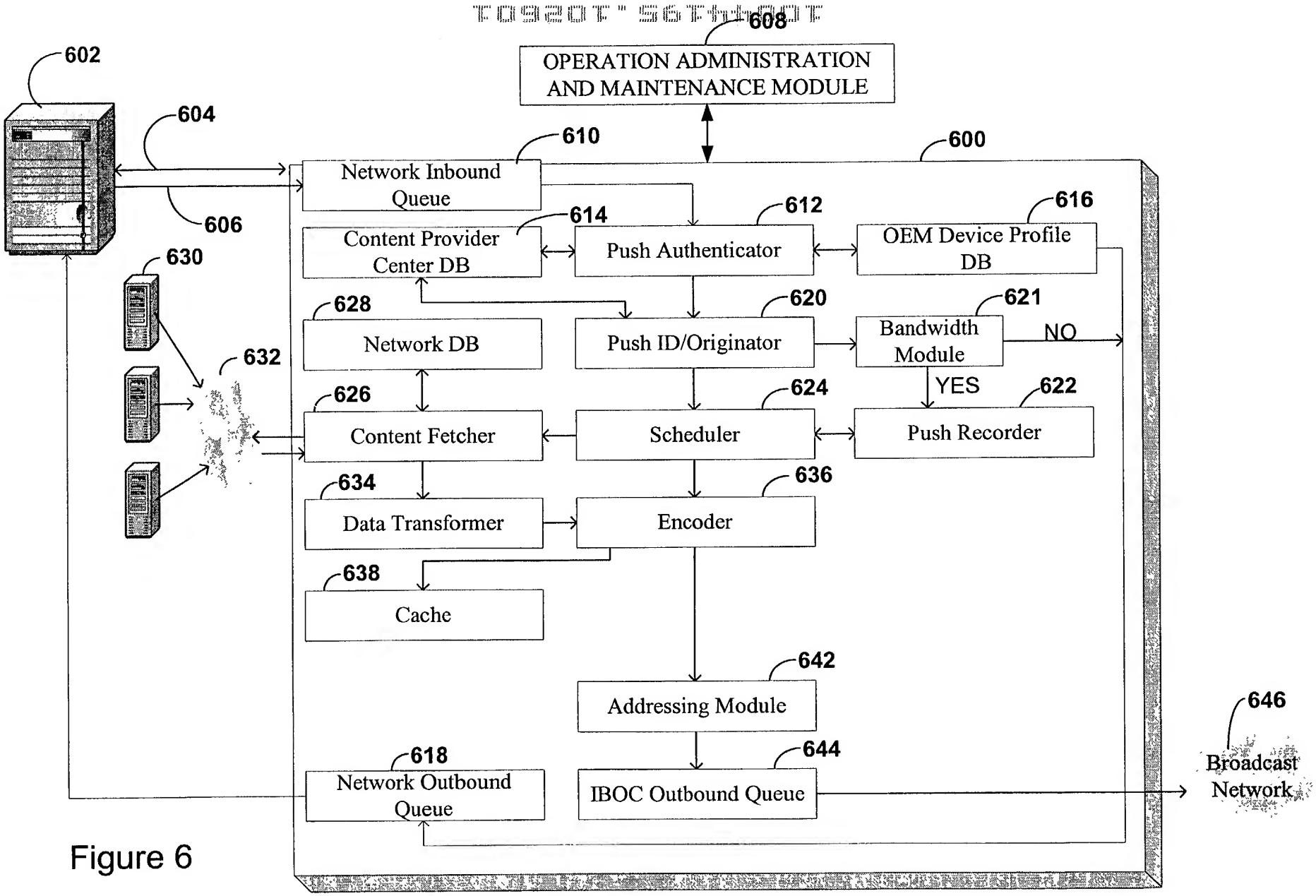
602
604
606
608
OPERATION ADMINISTRATION AND MAINTENANCE MODULE
610
600
Network Inbound Queue
614
Content Provider Center DB
612
Push Authenticator
616
OEM Device Profile DB
630
628
Network DB
620
Push ID/Originator
621
Bandwidth Module
NO
632
YES
622
626
624
Content Fetcher
Scheduler
Push Recorder
634
636
Data Transformer
Encoder
638
Cache
642
Addressing Module
646
618
644
Network Outbound Queue
IBOC Outbound Queue
Broadcast Network

Figure 6

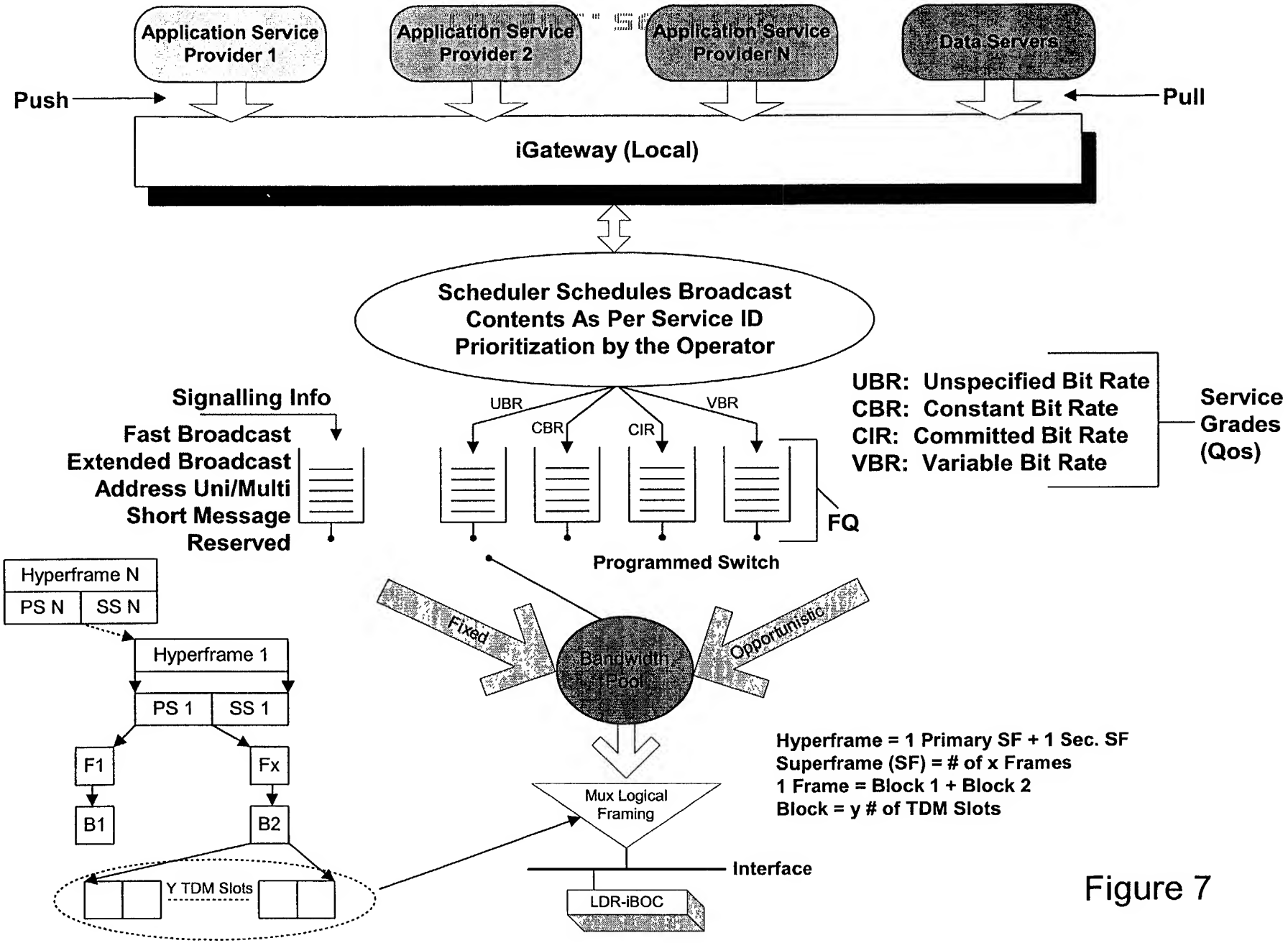
Application Service Provider 1
Application Service Provider 2
Application Service Provider N
Data Servers
Push
Pull
iGateway (Local)
Scheduler Schedules Broadcast Contents As Per Service ID Prioritization by the Operator
Signalling Info
Fast Broadcast
Extended Broadcast
Address Uni/Multi
Short Message
Reserved
UBR
CBR
CIR
VBR
FQ
Programmed Switch
UBR: Unspecified Bit Rate
CBR: Constant Bit Rate
CIR: Committed Bit Rate
VBR: Variable Bit Rate
Service Grades (Qos)
Hyperframe N
PS N
SS N
Hyperframe 1
PS 1
SS 1
F1
Fx
B1
B2
Y TDM Slots
Fixed
Bandwidth Pool
Opportunistic
Mux Logical Framing
Interface
LDR-iBOC
Hyperframe = 1 Primary SF + 1 Sec. SF
Superframe (SF) = # of x Frames
1 Frame = Block 1 + Block 2
Block = y # of TDM Slots

Figure 7